Remarks

Claims 1-6, 8-62 and 64-68 stand rejected. Claims 2, 6, 10, 24, 25, 39, 42, 43, 51, 61 and 65 are canceled herein; thus, claims 1, 3-5, 8, 9, 11-23, 26-38, 40, 41, 44-50, 52-60, 62, 64, and 66-68 remain pending. Claims 1, 3, 8, 11, 14, 15, 21, 35, 41, 45, 46, 57, 64, 67 and 68 are currently amended. The Assignee respectfully requests allowance of claims 1, 3-5, 8, 9, 11-23, 26-38, 40, 41, 44-50, 52-60, 62, 64, and 66-68.

Current Claim Amendments

Claims 1, 8, 11, 14, 35, 41, 45, 57, 64 and 67 are amended to further incorporate the provision that "the stable timing signal comprises a global positioning system based timing signal," or similar limitations. As these limitations have been promoted from dependent claims 6, 10, 24, 25, 39, 43, 51, 61 and 65; thus, these claims are canceled herein.

Claim 1 is further amended to include "a stabilized local oscillator configured to receive the stable timing signal and to use the stable timing signal as an input to generate a stabilized oscillator signal." As this particular limitation was promoted from claim 2, claim 2 is canceled.

Claim 67 is further amended to provide for "receiving the global positioning system based stable timing signal at a stabilized local oscillator and using the global positioning system based stable timing signal as an input to generate a stabilized local oscillator signal." Converting the receiving frequency is thus performed using the stabilized local oscillator signal.

Claim 41 is amended to now include the provisions of claim 42, bringing about the cancellation of claim 42.

Claims 15, 21 and 46 are amended to eliminate a Markush-type claiming informality. Also, claims 3 and 68 are amended to ensure proper antecedent basis. Thus, as these particular amendments do not touch upon the substantive provisions of their respective claims, no surrender of subject matter or scope thereof is intended.

Claim Rejection Under 35 U.S.C. § 102

Claims 8-9 stand rejected under 35 U.S.C. § 102(a) as being anticipated by U.S. Patent No. 6,014, 546 to Georges et al. (hereinafter "Georges"). (Pages 5 and 6 of the Office action.) The Assignee traverses the rejection in light of the current amendment to claim 8 and the

following discussion.

Claim 8 now incorporates the provision that "the stable timing signal comprises a global positioning system based timing signal," such as a timing signal from a Global Positioning System (GPS) satellite. Further, this stable timing signal is used by a stabilized local oscillator to generate a stabilized oscillator signal.

Georges indicates the use of the global reference oscillator 66 (shown in Fig. 4), which is more specifically disclosed as a temperature-stabilized crystal oscillator. (Column 7, lines 31-42.) As a result, Georges does not indicate use of a global positioning system based timing signal employed to stabilize the oscillator. Thus, the Assignee contends that claim 8 is allowable in view of Georges, and such indication is respectfully requested.

Also, as claim 9 depends from independent claim 8, and thus incorporates all provisions of that claim, the Assignee asserts that claim 9 is allowable for at least the reasons provided above in support of claim 8.

Therefore, in light of the foregoing, the Assignee respectfully requests withdrawal of the 35 U.S.C. § 102 rejection.

Claim Rejections Under 35 U.S.C. § 103

All pending claims stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various combinations of numerous references. (Pages 7-25 of the Office action.) The Assignee respectfully traverses the rejections in light of the amendments to the independent claims, and in view of the discussion presented below.

Each of independent claims 1, 8, 11, 14, 35, 41, 45, 57, 64, 67 and 68 provide a timing source configured to generate a global positioning system based stable timing signal, and a stabilized oscillator configured to receive the stable timing signal and to use the stable timing signal as an input to generate a stabilized oscillator signal, or similar provisions thereof.

The Office action indicates that new references have been found "wherein a base station uses GPS signals as a source of a common time base to *periodically correct the stability of the oscillator*." (Page 5 of the Office action; emphasis supplied.) Each of these references appears to be combined for obviousness purposes with U.S. Patent No. 6,411,825 to Csapo et al., which "fails to disclose the GPS "stable" timing signal is used to generate a "stable" oscillator signal." (Page 11 of the Office action.) The references indicated in the Office action appear to include

U.S. Patent No. 5,689,431 to Rudow et al. (hereinafter "Rudow"), U.S. Patent No. 6,185,429 to Gehrke et al. (hereinafter "Gehrke"), U.S. Patent No. 5,982,322 to Bickley et al. (hereinafter "Bickley") and U.S. Patent No. 6,194,970 to Nielsen et al. (hereinafter "Nielsen"). However, as described in detail below, each of these references employ GPS receivers to either *periodically resynchronize a numeric time base* or *characterize an oscillator for later control during actual operation*, not to use as an input to an oscillator to *generate a stabilized oscillator signal*, as provided for in the independent claims.

Rudow

Generally, Rudow provides a "golf course yardage and information system" employing a differential Global Positioning System (DGPS). (Column 2, lines 62-64.) According to Rudow, a course management station and multiple golf-cart-based units receive GPS data. (Column 7, lines 31-35.) This information is employed by a GPS subsystem 42 (shown in Fig. 3) to provide a pulse per second (PPS) signal. (Column 9, lines 35-39.) The PPS signal is utilized to calibrate a numerical scale factor associated with a real-time clock once per second. (See column 14, lines 30-48.) The PPS signal thus provides periodic recalibration of a number for calibrating a clock, not a stable timing signal for generating a stabilized oscillator signal, as provided for in the independent claims, as the oscillator signal itself is not being stabilized.

Gehrke

Gehrke provides "a method and apparatus for performing a time synchronization of a base site" of a radio communication system. (Column 2, lines 61-63.) The system includes a GPS receiver 210 coupled to a timing reference unit 208. (Column 3, lines 49-52.) The GPS receiver 210 has access to a GPS satellite signal as a *common time base* for synchronizing the timing reference unit 208. (Column 4, lines 13-19; emphasis supplied.) "Once a base site is synchronized, it is able to maintain the timing reference by use of a local oscillator. Any lack of stability in the oscillator can be *periodically corrected by resynchronizing with the GPS signal* or through *periodic correction of the oscillator based on known drift in the oscillator performance.*" (Column 2, lines 20-25; emphasis supplied.) Thus, Gehrke relies on either (1) periodic resynchronization of a numeric time reference via GPS, of (2) periodic correction of an unstable oscillator based on known drift properties, and hence not by way of GPS. Thus, Gehrke does not

teach or suggest stabilization of the actual oscillator signal, as set forth in the independent claims.

Bickley

In general, Bickley discloses a "mobile position locating radio" employing "a geolocation receiver," such as a GPS receiver, "for providing local position and timing information." (Column 2, lines 24-30.) Utilized within the radio is "a stable master oscillator which is in turn *calibrated* by accurate timing or frequency signals from [a real time] clock 41 and GPS receiver 34 via data processor 38.") (Column 8, lines 4-7; emphasis supplied.) "Real time clock 41 is conveniently slaved, i.e. *calibrated or corrected*, using high accuracy time/frequency information obtained by geolocation receiver 34...." (Column 5, lines 34-39.) Further, as shown in Fig. 2, "[d]ata processor 38 is coupled to real time clock 41 by bus 42." (Fig. 2; and column 5, lines 31 and 32.) Thus, Bickley describes a *numerical clock* 41 (as it is coupled via a bus 42 to a data processor 38) *periodically calibrated or corrected* via a GPS signal, not an *oscillator stabilized* by a GPS-based timing signal, as provided for in the independent claims.

Nielsen

Nielsen provides "a method and apparatus to perform holdover testing of an oscillator in service." (Column 2, lines 10 and 11.) More specifically, a GPS receiver 102 or a redundant GPS receiver 103, comprising part of a main clock generator 110 and a redundant clock generator 111, respectively, generates a timing signal used for a main clock signal of a Code Division Multiple Access (CDMA) base station, as shown in Fig. 1. (Column 3, lines 44-49.) "Each GPS receiver is connected to a controller 104 or 105 that changes the clock signal source from the GPS receiver to an oven-controlled crystal oscillator 106 or 107 during holdover periods." (Column 3, lines 49-52.) In other words, while the GPS signal is being received by either clock generator 110, 111, the system clock signal is provided directly by one of the GPS receivers 102, 103. Else, if the GPS signal is lost, "the crystal oscillator of either the main or redundant clock generator provide[s] the system clock signal." (Column 4, lines 4-11.) While the GPS signal is being received, the GPS timing signal is being used to *characterize* the stability of the crystal oscillator so that when the oscillator is used as a result of a lost GPS signal, the *previous* characterization is used to properly control the oscillator. (Column 4, lines 12-27.)

Thus, Nielsen uses a GPS-based timing signal directly as a main clock signal, and as a means for *characterizing* an oscillator for *later control* of the oscillator when the GPS signal is not being received. As a result, Nielsen does not teach or suggest using a timing signal as an input to an oscillator to generate a stabilized oscillator signal, as provided for in the independent claims.

Given the foregoing, the Assignee contends that independent claims 1, 8, 11, 14, 35, 41, 45, 57, 64, 67 and 68 are allowable in view of any of the cited references of Rudow, Gehrke, Bickley and Nielsen, in combination with Csapo and the other references cited in the Office action, and such indication is respectfully requested.

Further, as each of the dependent claims incorporates the provisions of its associated independent claims, the Assignee asserts that the dependent claims are allowable for each of the reasons provided above in support of the independent claims.

Accordingly, in view of the foregoing, the Assignee respectfully requests withdrawal of each of the 35 U.S.C. § 103 rejections.

Conclusion

Based on the above remarks, the Assignee submits that claims 1, 3-5, 8, 9, 11-23, 26-38, 40, 41, 44-50, 52-60, 62, 64, and 66-68 are allowable. Additional reasons in support of patentability may exist, but such reasons are omitted in the interests of clarity and brevity. The Assignee thus respectfully requests allowance of claims 1, 3-5, 8, 9, 11-23, 26-38, 40, 41, 44-50, 52-60, 62, 64, and 66-68.

The Assignee believes no fees are due with respect to this filing. However, should the Office determine additional fees are necessary, the Office is hereby authorized to charge Deposit Account No. 21-0765.

Respectfully submitted,

Date: 11/3/05

SIGNATURE OF PRACTITIONER
Kyle J. Way, Reg. No. 45,549
Setter Ollila LLC
Telephone: (303) 938-9999 ext. 21
Facsimile: (303) 938-9995

Correspondence address:

CUSTOMER NO. 28004

Attn: Harley R. Ball
6391 Sprint Parkway
Mailstop: KSOPHT0101-Z2100
Overland Park, KS 66251-2100